EXAMINER'S AMENDMENT

1.   This Office Action is in response to the Board Decision of 08/23/2010, in which

the previously submitted Final Rejection was overturned. In view of new found

references, prosecution has been reopened.

2.   An examiner's amendment to the record appears below. Should the changes

and/or additions be unacceptable to applicant, an amendment may be filed as provided

by 37 CFR 1.312. To ensure consideration of such an amendment, it MUST be

submitted no later than the payment of the issue fee.

        Authorization for this examiner's amendment was given in a telephone interview

with Peter H. Priest on 10/20/2010.

        The application has been amended as follows:

        Starting at line 9 of **claim 1**, "results representing a candidate for a

result matching the voice input received from the user; and"

should be changed to:

        ---results representing a candidate for a result matching the

voice input received from the user and having an associated

confidence level;---

Starting at the 15th line of **claim 1**, `"attempts."` should be changed to:

   `---attempts; and`

   `wherein the processing of the list of potential voice`
`recognition results comprises comparing the associated`
`confidence levels of the potential voice recognition results to`
`an upper threshold and a lower threshold, wherein the potential`
`voice recognition results are kept if the associated confidence`
`levels are above the upper threshold, the potential voice`
`recognition results are not kept if the associated confidence`
`levels are below the lower threshold, and potential voice`
`recognition results with associated confidence levels between`
`the upper threshold and the lower threshold are only kept if`
`they match any of the past results of recognition attempts.---`

   Starting at line 3 of **claim 8**, `"voice recognition attempt; and"` should
be changed to:

   `---voice recognition attempt;---`

   Starting at line 4 of **claim 8**, `"in a result list, the voice`
`recognition results representing members"` should be changed to:

    ---in a result list, the potential voice recognition results

representing members---

    Staring at line 6 of **claim 8**, "in a current voice recognition

attempt, the processing module being operative" should be changed to:

    ---in a current voice recognition attempt, each potential

voice recognition result having an associated confidence level,

the processing module being operative---

    Starting at line 12 of **claim 8**, "the characteristics of elements of

the data collection." should be changed to:

    ---the characteristics of elements of data collection; and

    wherein the processing of the list of potential voice

recognition results comprises comparing the associated

confidence levels of the potential voice recognition results to

an upper threshold and a lower threshold, wherein the potential

voice recognition results are kept if the associated confidence

levels are above the upper threshold, the potential voice

recognition results are not kept if the associated confidence

levels are below the lower threshold, and the potential voice

recognition results with associated confidence levels between

the upper threshold and the lower threshold are only kept if

they match any of the past results of recognition attempts.---

Starting at line 3 of **claim 12**, "examining a list of recognition

results" should be changed to:

---examining a list of voice recognition results---

Starting at line 5 of **claim 12**, "under consideration, the list being

compiled in response to the voice input under consideration;

and" should be changed to

---under consideration, each voice recognition result

associated with a confidence level, the list being complied in

response to the voice input under consideration;---

Starting at line 7 of **claim 12**, "making changes to the list based on

based on information relating to results" should be changed to:

---making changes to the list of voice recognition results

using a processor based on information relating to results---

Starting at line 8 of **claim 12**, `attempts.` should be changed to:

---attempts;

wherein the making changes to the list of voice recognition

results comprises comparing associated confidence levels of the

voice recognition results to an upper threshold and a lower

threshold, wherein the voice recognition results are kept if the

associated confidence levels are above the upper threshold, the

voice recognition results are not kept if the associated

confidence levels are below the lower threshold, and the voice

recognition results with an associated confidence level between

the upper threshold and the lower threshold are only kept if

they match any of the past results of recognition attempts.---

Allowable Subject Matter

3.   **Claims 1-16** are allowed. The following is an examiner's statement of reasons
for allowance:

Regarding **claim 1**, Hennecke (US PGPUB 2004/0034527; cited previously)
discloses a voice recognition system comprising:

- a plurality of voice activated modules [speech recognition
  units] for receiving voice recognition results
  representing voice inputs from a user and taking
  actions in response to the voice inputs (Page 1, paragraph
  0015);

- a voice recognition module for receiving voice inputs
  from a user and performing voice recognition on the
  voice inputs [processing voice inputs from a user], performing
  voice recognition on a voice input comprising
  identifying members of a collection of elements
  representing potential matches to the voice input
  [processing voice inputs from a user to select a list element from a list or
  group of list elements], the voice recognition module being
  operative to prepare a list of potential voice
  recognition results [select a list element from a list or group of list

elements; create a sub-list] for a voice input under

consideration, each of the potential voice recognition

results representing a candidate [list element] for a

result matching the voice input received from the user

(Fig. 1, elements 6-8, Page 1, paragraphs 0009-0010; Page 3, paragraph

0026)

- a results postprocessor for processing the list of

  potential voice recognition results to improve speed

  and accuracy of voice recognition [matching unit and database

  using mapped recognition results to provide more accurate output results]

  (Fig. 1, element 7; Page 2, paragraph 0020; Page 3, paragraph 0028)

Hennecke does not adequately disclose the postprocessor making changes to

the same list as prepared for the voice input under consideration, but rather prepares a

list and then makes changes based upon matching scores; these changes result in a

second candidate list comprised of the best scoring results (Page 2, paragraphs 0020;

Page 3, paragraph 0026).

US Patent 5,999,902, hereinafter Scahill, does further disclose:

- the results postprocessor [means operable to weight

  accumulated measures] being operative to make changes to

  the list [weighting accumulated measures in accordance with

  weighting factors for each of the allowed sequences] based on

  information relating to past results of recognition

attempts [repetitively comparing portions of an unknown utterance with reference models, said reference models based on previously generated measures obtained from comparisons of one or more earlier portions of the utterance with reference models; determining the probability of a speech feature based upon the speech features that preceded it] (Col. 2, lines 01-10; Col. 4, line 62 - Col. 5, line 04)

- in order to associate a higher priority with members of the list having a higher likelihood of matching the voice input under consideration as indicated by the past results of recognition attempts [recognition scores weighted to result in result being chosen; weighting the accumulated measures in accordance with weighting factors for each of the allowed sequences, wherein weighting is understood to correspond to a list in that the largest weight corresponds to the "top" of a list of results, and also wherein the allowed sequences are understood to have been determined based upon past results as shown above; means operable to weight the accumulated measures as per above; comparing the unknown word with further models to find a higher score, and replacing lowest scoring model of the original list with the new model and score so that best scoring models are left to choose from in the list] (Abstract; Col. 2, lines 14-24, 48-57; Col. 10, lines 55-60).

   Neither Hennecke, nor Scahill, nor any of the prior art found adequately

addressed the additional limitation of "`wherein the processing of the list`

`of potential voice recognition results comprises comparing the`

`associated confidence levels of the potential voice recognition`

`results to an upper threshold and a lower threshold, wherein the`

`potential voice recognition results are kept if the associated`

`confidence levels are above the upper threshold, the potential`

`voice recognition results are not kept if the associated`

`confidence levels are below the lower threshold, and the`

`potential voice recognition results with associated confidence`

`levels between the upper threshold and the lower threshold are`

`only kept if they match any of the past results of recognition`

`attempts`" based upon an associated confidence level of a particular candidate for a

result.

   The most relevant prior art document found was the disclosure of Doyle (US

PGPUB 2003/0125945), which teaches a method for improving a voice recognition

system that makes use of an upper threshold [confidence threshold] that must be

crossed to accept a recognition result and a lower threshold [sensitivity threshold] which

must be crossed in order for a recognition result not be rejected as background noise or

other improper input (Page 2, paragraphs 0019, 0022; Page 10, paragraphs 0111-

0119). However, Doyle does not adequately disclose the considerations of a result with

a score that lands between the upper threshold and the lower threshold. In particular, the teachings of Doyle do not present the two thresholds as related to one another and are for determining different aspects of the input. Should an input score higher than the sensitivity threshold but lower than confidence threshold in the disclosure of Doyle, the result will simply be rejected, despite having been recognized as a valid input. It should also be noted that because the two thresholds are implemented in an independent fashion, it is entirely possible for Doyle to have a sensitivity threshold set higher than the confidence threshold, rendering the system non-functional for any input. This particular outcome is not possible given the limitations of **claim 1** in the instant application.

Another relevant reference is the teachings of Chang '901 (US Patent 7,567,901). Chang is directed a speaker identification procedure in voice recognition, including a confidence value compared to a lower threshold and a higher threshold (Col. 6, lines 25-47). While Chang does consider the event that a particular score may be between the two thresholds, this scenario is not handled in the same manner as required by the limitations of **claim 1**. Chang '901 teaches the system prompting for repeated inputs from the user to further define a confidence value (Col. 7 ,lines -01-11), rather than relying upon an existing list of past results in order to decide if a recognition result is valid, as required by the limitations of the claim.

It should further be noted that Chang does not qualify as prior art under any of the conditions set forth by 35 USC §102, and therefore cannot properly show that the

teachings of the claims were previously known at the time the instant invention was

made.

No other reference found addresses these limitations of **claim 1** in combination

with the other limitations-in particular the consideration of priority changing of results

based upon past results- of the claim in such a way to anticipate or render obvious the

scope of the claim as a whole. Therefore, **claim 1** comprises allowable subject matter

and is allowed.

Regarding **claims 2-7**, each of these claims depends directly or indirectly upon

allowed **claim 1** and merely provides further limitations to the scope of the parent claim.

Therefore, these claims are also allowable for at least the same reasons as applied

above to independent **claim 1**.

Regarding **claim 8**, Hennecke discloses a results postprocessor for voice

recognition comprising:

- a repository of information relating to a current voice
  recognition attempt (Fig. 1, item 4; Page 1, paragraph 0015; Page 2,
  paragraph 0020);

- a processing module for processing potential voice
  recognition results in a result list, the potential voice
  recognition results representing members of a collection

`of elements representing potential matches to a voice`

`input under consideration in a current voice recognition`

`attempt` (Fig. 1, item 7; Page 2, paragraph 0020; Page 3, paragraph 0028).

Hennecke does not adequately disclose the postprocessor making changes to the same list as prepared for the voice input under consideration, but rather prepares a list and then makes changes based upon matching scores; these changes result in a second candidate list comprised of the best scoring results (Page 2, paragraphs 0020; Page 3, paragraph 0026).

Scahill discloses a speech recognition system featuring:

- `the processing module being operative to examine the`

  `information in the repository` [using reference models from a

  storage means] `relating to the current voice recognition`

  `attempt and to make changes to a results list compiled`

  `in response to a voice input` [weighting the accumulated

  measures in accordance with weighting factors for each of the allowed

  sequences], `the changes being made based on the`

  `information stored in the repository` [weighting based on

  comparison dependent upon reference models] (Col. 2, lines 01-10, lines

  45-47; Col. 4, line 63 – Col. 5, line 04),

- `the changes associating a higher priority with results`

  `in the results list that are indicated to have a`

  `higher priority of matching the voice input based on`

information in the repository relating to

characteristics of elements of the data collection

[weighting the accumulated measures in accordance with weighting

factors for each of the allowed sequences, wherein weighting is

understood to correspond to a list in that the largest weight corresponds to

the "top" of a list of results, and also wherein the allowed sequences are

understood to have been determined based upon past results as shown

above; means operable to weight the accumulated measures as per

above] (Col. 2, lines 14-24, 48-57).

Similar to the above analysis of **claim 1**, none of the prior art references include,

either alone or in obvious combination, the additional teachings of " wherein the

processing of the list of potential voice recognition results

comprises comparing the associated confidence levels of the

potential voice recognition results to an upper threshold and a

lower threshold, wherein the potential voice recognition results

are kept if the associated confidence levels are above the upper

threshold, the potential voice recognition results are not kept

if the associated confidence levels are below the lower

threshold, and the potential voice recognition results with

associated confidence levels between the upper threshold and the

lower threshold are only kept if they match any of the past

`results of recognition attempts"` when considered in combination with the

other limitations of **claim 8**.

Therefore, **claim 8** is allowed for the same reasons as applied above to **claim 1**.

Regarding **claims 9-11**, each of these claims depends directly or indirectly upon

allowed **claim 8** and merely provides further limitations to the scope of the parent claim.

Therefore, these claims are also allowable for at least the same reasons as applied

above to independent **claim 8**.

Regarding **claim 12**, this claim only comprises limitations very similar to those

found in **claim 2** and is therefore allowed for the same reasons as applied above to

claim 1, which in turn are the reasons to allow **claim 2**.

Regarding **claims 13-16**, each of these claims depends directly or indirectly upon

allowed **claim 12** and merely provides further limitations to the scope of the parent

claim. Therefore, these claims are also allowable for at least the same reasons as

applied above to independent **claim 12**.

Comments with respect to 35 USC § 101

4.   **Claims 1-11** are considered to fall within the statutory categories of invention

because they explicitly recite at minimum a results postprocessor which is only

disclosed in the specification as comprising of statutory elements within a system, in

particular a series of modules hosted upon a hardware server (Specification submitted

by applicant 02/05/2004: Page 4, paragraph 05). Therefore, **claims 1-11** are each

directed to a statutory system or device.

5.   **Claims 12-16** are directed to a method that is tied to a post-processor as

described by the specification, by virtue of the fact that the only provided embodiment of

the invention relies upon the implementation of a postprocessor of a series of modules

hosted by a hardware server (Specification submitted 02/05/2004: Page 4, paragraph

05). Therefore, **claims 12-16** are each directed to a method that is tied to another

statutory category of invention and therefore comprise a statutory method.

Conclusion

6.   The prior art made of record, but not previously cited, and not relied upon is

considered pertinent to applicant's disclosure.

- Ittycheriah (US Patent 5,452,397) teaches a method and system for preventing entry of confusingly similar phases in a voice recognition system vocabulary list.

- Lennig (US Patent 5,479,488) teaches a method and apparatus for automation of directory assistance using speech recognition.

- Brems (US Patent 5,566,272) teaches an automatic speech recognition processing using confidence measures.

- Meador (US Patent 5,638,425) teaches an automated directory assistance system using word recognition and phoneme processing methods.

- Wu (US Patent 5,983,177) teaches a method and apparatus for obtaining transcriptions from multiple training utterances.

- Besling (US Patent 6,081,779) teaches a language model adaptation for automatic speech recognition.

- Gillick (US Patent 6,167,377) teaches a speech recognition language model using a combination expression to produce combined language results for a set of candidates.

- Nelson (US Patent 6,243,713) teaches a multimedia document retrieval by application of multimedia queries to a unified index of multimedia data for a plurality of multimedia data types.

- Smith (US Patent 6,404,876) teaches a system and method for voice activated dialing and routing under open access network control.

- Peng (US PGPUB 2002/0078209) teaches an apparatus and method for intelligently providing applications and data on a mobile device.

- Sharma (US PGPUB 2002/0151334) teaches a communications device with call frequency analyzing.

- Souvignier (US Patent 6,449,011) teaches a method of adapting linguistic speech models.

- Gao (US PGPUB 2002/0196911) teaches a method and apparatus for conversational name dialing systems.

- Vanburskirk (US Patent 6,523,004) teaches a method and apparatus for disambiguating lists of elements for speech interfaces.

- Weber (US Patent 6,532,444) teaches a network interactive user interface using speech recognition and natural language processing.

- Arnold (US Patent 6,745,161) teaches a system and method for incorporating concept-based retrieval within Boolean search engines.

- Ahlenius (US PGPUB 2004/0122666) teaches a method and apparatus for displaying speech recognition results.

- Cooper (US PGPUB 2005/0177376) is the pre-grant publication of the instant application.

- Sasaki (US Patent 6,957,207) teaches a user information inferring system.

- Bakis (US Patent 7,043,432) teaches a method and system for text-to-speech caching.

- Ross (US Patent 7,085,723) teaches a system and method for determining

  utterance context in a multi-context speech application.

- Axelrod (US Patent 7,464,031) teaches a speech recognition utilizing

  multitude of speech features.

- Mori (US Patent 7,480,612) teaches a word predicting method, word

  recognition method, and voice recognition apparatus using the same

  methods.

- Scahill (US Patent 7,542,902) teaches an information provision for call

  centers.

- Bacchiani (US Patent 7,729,912) teaches a system and method for latency

  reduction for automatic speech recognition using partial multi-pass results.

- Franz (US Patent 7,027,987) teaches a voice interface for a search engine.

- Attwater (US Patent 6,629,069) teaches a speech recognizer using database

  linking.

- Scarano (US PGPUB 2004/0083099) teaches a method and apparatus for

  audio data analysis and data mining using speech recognition.

7.   Please note that though the examiner providing signatory authority for this action

has changed, the examination has been performed by the same examiner throughout

prosecution.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to David Kovacek whose telephone number is (571) 270-3135. The examiner can normally be reached on M-F 9:00am - 5:30pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, James Wozniak can be reached on (571) 272-7632. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

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/DMK/, 10-21-2010